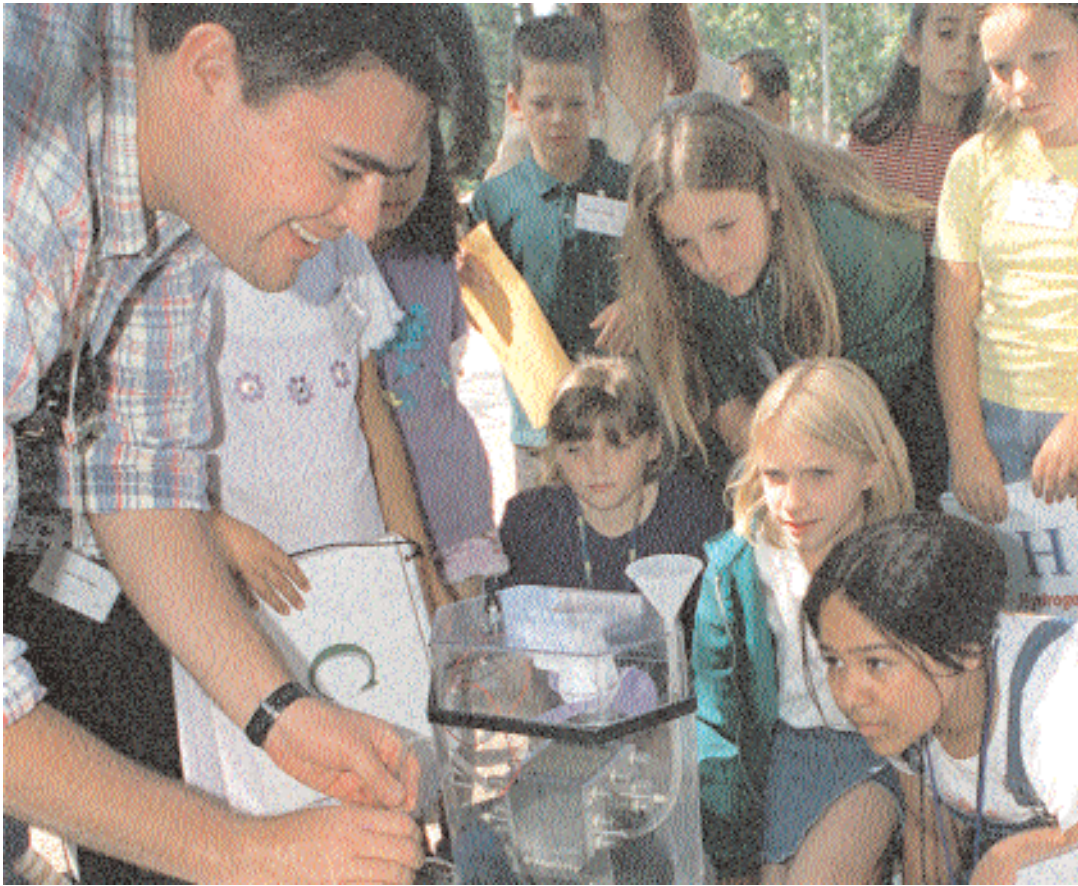


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Kids' day on Lab coming April 24

The fuel cell demonstration by Thomas Valdez (left) is always a popular attraction when kids visit the Lab.

The Laboratory will be celebrating "Take Our Daughters & Sons To Work Day" on Thursday, April 24. This year's theme is "Working Together to Explore Our Future In Space."



JPL Photolab

The Diversity Programs Office is the event sponsor and is coordinating the effort with the Human Resources Division, Advisory Council for Women and Advisory Council for Minority Affairs. This event is designed to expand your child's awareness of their potential and the many future options available in exploring our future in space. Children between the ages of 9 and 17 are welcome. There will be a variety of exciting activities and exhibits designed to inform children about space, the Laboratory and time to just have fun. A new earthquake awareness exhibit is planned for this year, as is a tour of the JPL Fire Station. Other popular activities from past years that will return this year include a fuel cell demonstration, balloon "Mars rovers," a planetarium and solar telescopes. An outdoor barbecue lunch special with hamburgers and hot dogs will be provided by

Caltech Catering for a cost of \$5.45 per person. A detailed event schedule and other pertinent information will be included in a parent's tool kit. Prior to the event, you will be required to register your child online at http://hr/towork_day. Upon completing the registration process, you will be able to access the parent's tool kit. Also required is a medical release/authorization form signed by your JPL manager. The deadline for submitting the medical release/authorization form to the Diversity Programs Office is Friday, April 11. Children's identification badges will be mailed to the parent or guardian for entrance to the event upon receipt of the medical release/authorization form. For additional information, call Mary Legaspi of the Human Resources Division at ext. 3-6897.



Newly refurbished lathe is returned to JPL's machine shop.

Old warhorse returns to service

An old warhorse that has been around the Lab for 50 years finally got a break. It's now back and better than ever. A 20-foot-long Lehmann lathe that was originally purchased by JPL in 1953 and has served every program from the Sergeant and Corporal rockets to the Mars Exploration Rovers has returned from an eight-month refurbishment. It's been so prolific and useful, said Curtis Tucker, deputy manager of the Mechanical Prototype and Hardware Fabrication Section (357), that it was well worth the \$115,000 price tag. It would have cost about six times



Photo courtesy of Curtis Tucker

as much for a comparable new model, he said. The lathe weighs in at 18,500 pounds without tooling, and is more than seven feet high. It was originally delivered from St Louis to Los Angeles by steam locomotive. "For its first 'vacation' from JPL," Tucker said, "the Lehmann was trucked round trip to a machine tool rebuilder in Philadelphia." The machine was rebuilt by an "old-world craftsman" who was born and learned his trade in England, Tucker said. "He took the Lehmann completely apart and then repaired and rebuilt it by hand. He also added a state-of-the-art computer to control the lathe, which is an interesting upgrade to a machine that was built when Eisenhower was president and computers at that time were the size of houses." In early March, the rebuilder came to JPL for a week to do final assembly, alignment and check-out. At that time the large tooling was installed and checked out and the machine was fully equipped and "ready for another 50 years of service," Tucker said.

TEAM LEADERS HIGH ON

SIRTF's



upcoming mission

By Mark Whalen

The JPL-managed Space Infrared Telescope Facility (SIRTF) has been in the planning stages for more than 25 years, and is now just a few weeks away from its scheduled April 18 launch. The mission will employ a cryogenically cooled telescope to observe objects from the solar system to the distant universe in the infrared for 2 1/2 to 5 years. Universe spoke with Project Manager David Gallagher (above) and Project Scientist Dr. Michael Werner (left).

How does it feel now to be just around the corner from the launch?

David Gallagher I feel a combination of tremendous excitement, anticipation and anxiety. A lot of the scientists have worked on SIRTF since the '70s, and to see their efforts come to fruition is a big thrill for me.

Michael Werner It's extremely exciting. There is also a bit of sadness about the fact that the excellent JPL contractor team is going to be dissolving rather quickly after launch, although an equally capable operations team will come into place.

How have launch preparations gone?

DG Fabulous. Knock on wood, it's been uneventful, a very smooth integration. SIRTF was transferred from Lockheed Martin in Sunnyvale, Calif., where the observatory was assembled, to the Cape on March 6. We completed our helium top-off, which went well, followed by the launch site confidence test, which confirmed all basic functions. We also verified Deep Space Network compatibility and optical alignment. We have a great assembly, test and launch operations (ATLO) team at the Cape right now.

What are the roles of the project manager and project scientist?

DG I'm responsible for things such as the overall cost, technical and schedule performance, personnel and contract management, as well as NASA Headquarters interface. We have a strong team approach. Our management team has met face-to-face monthly while this mission has been under development. We've met here at JPL, at Lockheed Martin in Sunnyvale and in Denver, at Ball Aerospace in Boulder, Colorado, and at the SIRTF Science Center on campus.

Mike Werner and I have an exceptionally close working relationship. We both want to accomplish the best possible science on this mission.

MW In the early phases of the planning, starting in 1984, my main jobs were to make sure the science requirements were properly articulated and justified, and to assist in the translation of those requirements into the engineering requirements.

There was also a long period of public relations, which was to make sure Congress, NASA and the science community were aware of the importance of SIRTF and to make sure the funding and advocacy were there when needed. We had a campaign that was led by university scientists, and I supported that.

In the last few years, our job has included participating in the analysis of the system and instrument testing—basically it is to assure that what is built is capable of doing the science we want to do with SIRTF.

Deputy Project Scientist Charles Lawrence and I also developed SIRTF's science utilization policies, which include the allocation of observing time.

How will scientists do their observations?

MW The whole program is conducted remotely. There are seven observing modes on SIRTF, and for each one investigators will use what is called an Astronomical Observing Template to request observing time. The request parameters are integrated into the spacecraft's commands to carry out the observation.

This is all done on the Web. We're going to support astronomers from all across the country and around the world.

Will many JPL scientists take advantage of observation opportunities?

MW We're eager to make sure JPL scientists benefit from the great investment JPL has made in the development of SIRTF. One of the paybacks for the institution is that our scientists benefit from that and make good use of the facility.

Through the auspices of the Center for Long Wave Astrophysics in Building 169, we have held a number of seminars from our science office to assist the JPL science community in creating proposals.

What are the teams supporting the mission?

MW We've had a small team in the project office, 20 to 25 people. Mission operations will be centered in Building 264, where a few months after launch there will be about 60 people. The SIRTF Science Center on campus will have about 105 people after launch.

I've also been assisted all along by a very competent staff in the SIRTF Science Office here at JPL.

Although the early days of the mission were rocky, it's been great to work with extremely good teams and to be well supported by JPL management in the last decade when we've gotten SIRTF going. I'm very pleased with the way JPL has worked with Caltech and with the university scientists.

Besides the expectation that SIRTF will revolutionize infrared astronomy, what else is unique about this mission?

DG Two things are unique. One is that we are using an Earth-trailing orbit, and the other is the warm-launch approach.

The reason we're using the Earth-trailing orbit is to get away from the Earth as a heat source. When we launch, the telescope will be warm, then on orbit it will be cooled by the use of combined active and passive cooling. This ultra-cold environment is necessary because we're looking for cold objects, so the telescope and detectors must be as cold as possible to prevent swamping the source.

We believe this approach will be the standard for future infrared missions.

Also, many JPL missions have been planetary- and/or encounter-based, where there is a cruise phase prior to a major event. In SIRTF's case, following our launch and a 60-day checkout period, we have to be ready as a working observatory.

SIRTF will improve 100 to 1,000 times over previous infrared technology. Will this capability also be looked at as a major advance for space science in general, not just for infrared?

MW Absolutely. SIRTF is the last of the Great Observatories, and when we're flying at the same time as the other two—Chandra and the Hubble Space Telescope—we will have a broad attack on numerous astrophysical targets.

The three will look at the same areas of the sky—primarily the distant universe. In some cases the three will see different things, in other cases they see the same thing, with different aspects of the same object. For example, SIRTF might be surveying the oldest stars in a galaxy, while Hubble might be looking at the youngest stars in that galaxy, and Chandra might be looking for a black hole.

Closer to home, will SIRTF also observe our own solar system?

MW Yes. Most of SIRTF's observations are targeted for the outer solar system. The major planets are too bright.

We do have a very interesting program to study Pluto's atmosphere and the planet's surface structure. In addition, beyond the orbit of Neptune, we want to know more about Kuiper Belt objects, which will help us better interpret how the solar system was formed.

Also, we hope to do spectroscopy of comets in the solar system—both returning comets and new ones—and to study asteroids. SIRTF is sensitive enough to determine the signatures of thermal emissions even if objects are only tens of kilometers in size.

Do you expect SIRTF will provide a sense of excitement for the public?

MW Yes. We have plans for Early Release Observations to provide the public an early taste of SIRTF science. The SIRTF Science Center at Caltech will also have good education, public outreach and [shared with JPL] press activities. We hope to have the same kind of impact on the general public as the Hubble Space Telescope has had.

When you look at a piece of the sky in the infrared and see a totally different picture than what you've seen in the visible (wavelength), it's not too hard to get somebody's attention.

Based on your experience, can you anticipate the promise and excitement the mission will bring?

DG I'm looking forward to the serendipitous science, where we find something we weren't looking for.

I remember when I was the integration and test manager for the Wide Field Planetary Camera 2 on the Hubble Space Telescope. I was at the Space Telescope Science Institute when they released the first corrected images produced by the camera, and it was the highlight of my career to see the previously blurry images become razor sharp. It was amazing.

I have three teenagers, and I get excited when I see the Wide Field Planetary Camera 2 pictures in their science textbooks. One day, I'd like to see SIRTF pictures in those textbooks as well.

Passings

KRISTAN ROSEMARY LATTU, 56, a retired member of the technical staff, died of heart failure March 13.

Lattu joined JPL in 1978 as an assistant to the director of Voyager flight operations. She specialized in space systems integration and operations, contributing to the Deep Space Network, Galileo, Cassini, SIR/C-X/SAR, the Earth Observing System and the International Space Station. She retired in 1998.

She is survived by her husband, Richard Dowling; daughter Catherine and brother Andrew.



Kristan Lattu

MARY MARGARET ASPELL, business manager for the Institutional Service and Support contract with Computer Sciences Corporation for JPL since early 2002, passed away March 3. Aspell, who joined the Lab in 1982, also supported the Task and Technical Support Effort Personnel and All-Source Analysis System contracts. She is survived by her siblings Herb, Richard, Len, Ken, Robert, Dan, Steve, Betty and Peggy as well as many nieces and nephews.

Letters

We would like to thank all of our friends and colleagues here at JPL for their expressions of sympathy on the death of my father. Your words and the lovely plant sent by the Laboratory were bright spots in our lives during this difficult time.

Jim Erickson and family

We would like to express our appreciation for the plant sent by JPL after the passing of Sarah's mother, Virginia Legare. Once again, the warmth of the "JPL family" comforts its own.

Frederick and Sarah Stuhr

Classifieds

For Sale

ART GLASS, crackle glass decanters, vases and pitchers, various colors, sizes & prices; VASE, 2' + tall, red stretch, non-crackle, \$30, view at <http://www.cathouse-fcc.org/sale.html>. 626/794-9470 or bigcatlovr@aol.com.

ART WORK: must sell, signed & numbered lithographs and originals, some framed, Peni Anne Cross, Oz Franca, Lee Bogle, Maija, Peter Lyman, more; and SafeCo 5-drawer art cabinet with stand. 626/398-4960.

BABY MOBILE, pastel colors, contains 4 classic Winnie the Pooh characters, winds up to play music, easily attaches to crib, exc. cond., \$25. 626/256-6606.

BED, king size, mattress, 2-piece foundation and metal frame, extra firm, exc. quality, like new, includes frame (orig. \$600 + frame), \$195. 714/390-5616, James.

BED, king size, with frame, from guest room, \$150; CHEST, possibly c. 1700s, kiri wood (Paulonia), iron fittings, 4 dresser-size drawers, breaks in 2 units for pole carry, \$1,700. 909/621-9667.

BEDROOM SET, king size new mattress with headboard and 6- and 5-drawer dressing tables, \$400/obo. 667-5569, Marlyn.

BICYCLE, red, beach cruiser, barely used, \$50. 626/850-4378.

CHAIR/OTTOMAN, beautiful, large retro-style, overstuffed, very solid and comfortable, heavy fabric w/scotch-guard, see pix on jpl.ads, new cond., \$650/obo. 353-6369.

CHINA CABINET, 2 piece, dark wood, Bassett, mint condition, \$150/obo. 353-2772 after 5 p.m.

CLOTHING for boys, including 2 suits (1 Nord-strom), slacks & shirts, most about size 12, exc. cond. 359-3644.

COFFEE MAKER, Braun, 10-cups, white/black, like new, \$30/obo. 626/791-6101.

COMPOSTER, Rubbermaid, \$40; JEWELRY, amethyst and diamond ring, set in 14K gold, sz. ~5-1/2; pearl ring, 8mm, set in 14K gold, sz. ~6; CLOTHING: Jones of New York 2 pc./jacket & slacks, (jacket fully lined and slash pockets), new w/tags, sz. 12, dark olive, \$100/obo; Rena Rowan for Saville, 2 pc./jacket & slacks, white, lined, sz. 14, never worn, pockets still stitched, \$50/obo; SIGNED PRINT, R.C. Gorman; MARBLE ROLLING PIN w/wooden stand, new, \$15;

CABINET, mini-file on wheels, \$10. 626/398-4960.

COMPUTER, AMD Athlon 1.2 GHz, MSI motherboard w/on-board sound, 512 MB DDR RAM, 80GB 7200 RPM hard drive, DVD, CDRW, 100MB Zip, 64MB GeForce 4 MX 420, TV tuner card, modem and NIC, running Win XP, \$500; MONITOR, 19", \$100. 323/254-5685.

CRIB, portable Graco Pack and Play with UV canopy, great for travel, used only a few times, good cond., \$60; TRICYCLE, girl's, exc. cond., \$25. 626/798-6248.

DIET TAPES, Jenny Craig, set of 14, \$50; COMPUTER POWER CONTROL CENTER, 5 power switches + 1 master switch, 5 surge-protected outlets + 2 modem/fax/phone jacks, new, \$20; POCKET ELEPHANT, Aurora digital voice alarm & memo recorder, all-in-one calculator, clock/ alarm, and voice recorder, new in sealed pkg., \$10; ORGAN, Yamaha 415 electronic console w/13 pedals, 3 keyboards, 144 rhythm patterns, pd. \$7,500, sacrifice for \$2,000. 790-3899.

DINING ROOM TABLE, + 6 chairs & 2 extra leaves, serves from 6 to 12, with a big china cabinet, exc. cond., must see, must sell, \$700/obo. 667-5569, Marlyn.

DODGER TICKETS, selected games from season ticket package, Loge level (orange), Aisle 132 (just inside first base), 2 tickets/game at face value of \$29/per ticket. www.delunac.net/tickets or 626/296-1253.

DVD PLAYER, progressive scan, Toshiba SD-3750, like new; features: 3:2 digital cinema progressive conversion, enhanced audio mode/ dialogue expander, 540-line output, 4x digital picture zoom, CD/DVD text display for titled discs, plays audio CD, CD-R, CD-RW, DVD, video CD, sacrifice for \$100; SOFTWARE, PrintShop CD Label Creator, brand new in orig. box, Windows XP compatible, incl. label-applying device, \$10. 790-3899.

EDUCATIONAL GAME, Geo Safari, 7 card packs of approx. 18 interactive games, incl.: basics (animals, insects, nature), geog., math, reading, English, getting ready for school, ages 4-7, very good cond., \$45; EDUCATIONAL CDS, Mac & PC compatible, Instant Immersion Spanish (2 CDs), Reader Rabbit 1, Richard Scarry, Best Reading Program Ever, Mercer Mayer's Just Grandma & Me, all for \$20. 626/303-1927.

FUEL DRUMS, 55-gallon, (2), \$10 each/obo. 957-3675.

FURNISHINGS: teal recliner \$49; peacock chair, wicker, \$29; bookcase, blue metal, sliding glass doors, 4' w x 3' t, \$89; water dispenser, hot & cold water, no bottles needed, \$29; desk chair, brown vinyl with arms, \$12; mini blinds, extra large 72" w x 50" t, 2 for \$29; bedsprings, antique, full-size, \$10; strollers, pink & gray or white/blue/pink, \$15 each; freezer, European, needs work, \$19. 626/798-4510.

GOLF CLUBS, O'Donnell, Orlimar Tri-metal clones, 3-pw, good cond., \$75. 834-0545, Eric.

MISC.: A/C, Kenmore, fits sliding window, only 14" w x 22" t, \$149; vacuum tubes, approx. 300, many still in boxes, no numbers quoted, must take all, \$149; donut spare tire/wheel, T105 80D-13, used once, \$39; massage mach., fits in chair, \$29; golf ball retriever, telescoping alum., 12', \$19; kid's rolling duffle bag, multi-color, never used, \$15; luggage set, Pierre Cardin 3-pc., \$19; TV, 13" B/W, \$19. 626/798-4510.

MISC.: Lane Hope Chest, cedar lined, blond waterfall art deco, 1950s, like new, \$300; bed, ma-hogany, 4-poster, \$250; lamp table, mahogany, w/drawer & lower shelf, \$200; dresser, mahog-any, w/mirror, 1860s, \$275; table, oak, w/4 upholstered chairs, \$375; lamp end table, maple, \$50; console color TV, 26" Sylvania, \$75; dresser, mahogany, \$75; mirr-ored oak hall tree w/bench seat that opens, \$500. 626/359-7666.

MISC.: tape recorders, \$10/ea.; shovels, \$5/ea.; humidifier, \$5; toaster oven, small, \$10; water purifier, under sink, 2 tanks, \$50; toaser, under cabinet, \$5; dog house, lg., \$20. 626/357-8210.

MISC: step ladder, 6 ft., alum., \$25; extension ladder, alum., \$25; ski rack, used once, \$25; ski boots, men's sz. 11, used few times, \$40; pwr. drill, Craftsman, \$25; gas-pwr. hedge trimmer, \$25, all in exc. cond. 626/449-6799, Bob.

MOVING SALE, 4-drawer blond wood dresser, 37" W x 43" T x 16.5" D, \$65; 3-drawer blond wood computer desk w/keyboard drawer, 43" W x 30" T x 22" D, \$75; white 1.3Kw microwave, very clean, \$50; free curbside delivery to Pasa-dena area. vona@ai.mit.edu or 626/796-0610.

MOVING SALE: furniture: Pottery Barn/ZGallery/ custom, L/R tables, chair \$150+; dining tables, chairs, bakers rack \$10-175; beds \$60-275; desks, bookcases \$60+; patio tables/chairs \$25-300; refrigerator, Amana, black, 19 cu. ft., \$175; refrig., Kenmore, white, 21 cu. ft., side-by-side, ice/water dispenser, \$250; China, black, Royale Lenox; mtn. bike, Univega, \$50; ladies Prima golf clubs/bag, new, \$150; kid's skis, Ross-ignol, \$25. bbon@earthlink.net or 952-2581.

MOVING SALE: nearly-new furn., vg cond.; all prices are obo; desk, pine, 2-drawer, \$200; couch, blue armless, down pillows, \$500; chairs, 2 cafe-style, black metal w/ off-white, \$80; TV/ stereo cabinet, lg. teak, \$850; armoire, pine painted white, \$500; bookcases, 2 Bonde style, Ikea, cherry color, 14 x 86" & 28 x 86", \$275; end tables, 2 Indonesian teak w/iron details, \$130; floor lamp from Restoration Hardware, retro 3-bullet tree style, \$85; tables, sm. bedside, wood w/drawer & shelf, \$225. 323/664-2672.

MOVING SALE: 20" TV, \$15; (following are 2 mo. old) Sentra twin mattress \$25; Epson inkjet printer, boxed, \$30; 10-cup rice cooker \$7; Belkin surge protector, \$10. 626/792-7131, biocpu@yahoo.com.

ORGAN, Wurlitzer, with bench, two 44-key manuals, 1 octave bass pedal, electronic beats, mahogany, \$150. 248-9418.

PIANO, Yamaha Clavinova, upright, CLP840, brown wood, almost new, \$1,800/obo; WASHER/ DRYER, top mount, Frigidaire, used only once, \$500. 661/253-2053, evenings.

PRINTER, Canon BJC 2010, w/9 sm. black cartridges, draft quality, \$20/firm. 626/345-0681.

RATTAN BAR w/3 stools, 1970s, \$100; HP DESK-JET 820 Cse (new ink), \$40; TORSO TRACK, \$15; OFFICE CHAIR, cloth w/arms, \$25; TV center Sony Spkr, #SS-CN3, \$35; of-fers accepted. 310/480-8336.

SCANNER/flatbed, Umax Astra 2400s, Vista Scan software, 8.5 x 14 scannable area, max res 9600 x 9600 dpi, interface: built in SCSI II; one 25-pin connector and one 50-pin connector, will include manual, installation software, cables, SCSI card, \$100/obo. 626/791-8161.

SOFA, like-new custom floral, greens/yellow/reds, \$400/obo; MOUNTAIN BIKE, girl's, like new, \$100. 952-0448.

STOVE, electric, four burner, good cond., stored for 4 years, \$200/obo. 626/355-8409.

STOVE, gas, Magic Chef, slide in, almond, electronic controller, good cond., 10 years old, \$50. 626/794-2431.

TABLE TOP, butcher block hardwood, 60 x 28 x 1 inch, with legs, \$75. 248-9418.

TABLES, 2, indoor/outdoor, custom designed rod iron, glass top, \$1,500; COMPUTER DESK, \$100; OFFICE CHAIR, \$35/obo. 248-1102.

TREES: red banana plant 5' tall, \$60/obo; fish tail, 6' tall, \$80/obo; ficus, braided, in 30" plastic pot >10' tall, \$250/obo; ceramic bowl, gray, 2' diameter with planted geraniums, \$40/obo. 626/791-6101 .

VACUUM CLEANER, Hoover steam, good cond., \$50; TOY CONSTRUCTION SET, Brio, wood, 220 pieces plus work board, vg condition, original cost ~\$150, sell for \$70. 626/303-1927.

VACUUM CLEANER, Kirby, used once, 4 mo. old, cleans everywhere/everything, even your bed, most versatile cleaner on the market, has all orig. accessories & agents for all functions, for more info <http://www.kirby.com/index2.shtml>, orig. \$1,600, sacrifice for \$1,200. 679-2622.

VIDEO GAME, Gameboy Advance, carrying case, worm light, battery/rumble/sound amplifier pack, 2 games (Spiderman, Army Men), 2 games for orig. Gameboy Color, (Zelda DX, F1-Race), 3 gm. cases, Gamester protective case, orig. case, instr. manual, 2 free battr., \$120/obo. 957-2852.

Vehicles / Accessories

AUTO TEST SET, electronic, includes an analog ignition oscilloscope that displays both primary/ secondary parade and raster wave-forms plus a full function analyzer w/timing light, all on a chrome rollaway cart, \$500. 249-6071.

'90 BUICK LeSabre, very reliable, runs great, recent tires and brakes, 102K mi., good student or second car, \$1,700. 626/447-6423.

CAR-TOP BIKE RACK, 2 Yakima, "LockJaw" bike holders, incl. SKS locking cores, compatible to factory racks w/the addition of Mighty-Mounts, exc. cond., \$125/both. 353-6369.

'91 CHEVROLET Cavalier convertible RS, V6, 69K orig. mi., new fabric top, new brakes & shocks, alloy wheels, auto trans, pwr. windows/ locks, fun & sporty. 626/676-9528 or bspritzer@iwon.com.

'98 FORD Crown Victoria LX, 4.6L V8, 4 dr., white/beige, leather, CD, keyless entry remote and keypad, cruise, power everything, 100K, split front seats, good cond., \$12,500. 822-6465, Ryan or code3media@crownvic.net.

GREASE/GEAR MANUAL PUMP, w/5 gal. container, incl. 6 ft. of 3/8 high pressure hose w/std. coupler, delivers grease at hi-volume or hi-pressure, exc. cond., \$50; BRAKE BLEEDER KIT, services most brake syst., built-in heavy duty safety valve & pressure regulator gage, 1.5 gal. capacity, incl. adapters for Ford/GM/VW/Honda, exc. cond., sells over \$400 new, sell \$115. 249-6071.

'97 HONDA CRV, one owner, dealer service, good cond., CD changer, etc., 75,000 mi., \$9,800. 626/350-8897.

'97 HONDA Valkyrie motorcycle, exc. cond., extra chrome, garage kept, purple/white, stud-ded seats, 2 seats and backrest, leather bags, many accessories, 23K mi., see to appreciate, \$7,990. 957-2852.

'95 HONDA Accord EX, 4 dr., 92K mi. VTEC, a/c, moonroof, full pwr., gd. cond., \$7,500. 353-2103.

'84 HONDA Sabre VF 700S, 700 cc, 18,500 mi., black, rear rack, window shield, good cond., \$1,400. 626/794-2431.

'83 HONDA VT500 Ascot motorcycle, 8,800 mi., perfect cond., \$1,350. 661/253-2053, evenings.

'85 KOUNTRY Lite 5th wheel trailer, 30 ft., orig. owner, alum. frame, 13.5K btu a/c, side bath, microwave, new tires & water pump, sleeps 6, exc. cond., \$6,000/obo. 626/963-5727.

'96 LAND ROVER Discovery, green/tan leather interior, pwr. everything, loaded, runs exc., see picture at JPL Store, recent detail and steamed engine, new hoses, belts tune-up, smog ok, \$10,875. 501-8161.

SAILBOAT, Lido 14 w/sails & trailer, hull/sails in gd. cond., centerboard is cracked, trailer has new wheels, \$700/obo. 626/447-5433, Robert.

'97 SATURN SW1 wagon, 83K mi, 5 spd., a/c, cruise contr., pwr. locks w/remote key fob, am/ fm/cass., roof rack, orig. owner, well maintained, \$4,700/obo. bbon@earthlink.net or 952-2581.

'98 TOYOTA Camry LE, white w/blue/gray interior, 77K miles, gd. cond., \$8,500/obo. 952-9022.

'96 TOYOTA Tercel DX sedan, 2 dr., exc. cond., low 45K highway mi., auto, a/c, dual airbags, pwr str., orig. owner, Kelley Blue

Book estimates \$5,700, sell \$5,200/obo. 626/446-4856.

'94 TOYOTA Corolla DX, 4 dr., light blue, auto, am/fm/cassette/cd changer, 153K mi., runs very well. 909/278-1870.

'90 TOYOTA Camry LE, V6, silver, auto, 4 dr., 138K mi., sun/moon roof, all power, am/fm/cass/CD, new tires and transmission, \$2,800/obo. 310/313-0284.

Wanted

ELLIPTICAL TRAINER, used in good condition. 626/447-4734.

FURNISHED APARTMENT sought by JPL couple, in greater Pasadena area, from April 1 through mid-June. 661/257-7027.

GUITAR, classical, full size. 805/338-3064 or donandellen1@earthlink.net.

SPACE INFORMATION/memorabilia from U.S. & other countries, past & present. 790-8523, Marc Rayman.

VOLLEYBALL PLAYERS, coed, no beginners please, Tuesday nights 8-10:00 at Eagle Rock High School, \$3/nt. 956-1744, Barbara.

For Rent

ARCADIA, furn. rm., incl. laundry facilities, kitchen privileges, pool, new bed/carpet/paint, no smokers. 626/448-8809, Shary.

COVINA house, Charter Oaks area, 3 bd., 1.5 ba., C/A, fireplace, w/d hookups, fenced yard, no pets. \$1,550. 323/228-1496.

LA CANADA, private rm. in home, with private bath, off-street parking, BBQ, pool, full kitchen priv., wash/dry, etc. \$450+utilities. 790-1280.

LA CANADA, 3 bd., 2 ba., lg. yard, pets welcome, \$2,500. 957-0273.

NORTH SAN GABRIEL house, Temple City schools, quiet str., 3 bd., 1.75 ba., lg. family room, 2 fireplaces, hardwood floors, priv. back garden w/pool & Jacz., water filtering system, washer/dryer, gardener and pool maintenance provided, yearly lease, \$2,600. 626/285-1405.

ONTARIO condo, 2 bd., 2 ba. + loft, 2 patios, wood burning fireplace, 5 min./airport & Ontario Mills, 1st mo. rent + \$500 security, \$1,500. 323/236-8505.

PASADENA apt., upstairs, 1 bd., 1 ba., kitchen, \$750. 626/798-0069.

PASADENA, townhome-style apt. to share, fully furn., 3 bd., 3 ba., with patio, a/c, laundry facilities, close to Caltech and JPL, \$625, including util. 626/351-9641.

PASADENA, spacious 2-story condo, 3 bd., 2.5 ba., prestigious community, beaut. inter., bright kitch., prof. landscape, ctrl. air & heat, close to shop., cozy l/r w/FP, end unit, frml. d/r, hdwd. flrs., immac. cond., close to schls, \$1,750. 626/396-9024.

PASADENA, 3 bd., 1 ba., formal din. rm., living rm., family rm., laundry, garage, orange trees and roses, avail. April 15 or May 1, \$2,000. 626/794-1598.

SIERRA MADRE, townhome style-apt. to share, 1,000 sq ft. lg. patio, 2 bed 1.5 ba., quiet street, garage parking, washer/dryer in unit, \$605 + 1/2 util. 626/355-4838, Heather.

SOUTH PASADENA apt., 2 bd., 1.5 ba., living & din. rm, fireplace w/built-in bookcases, wood floors, kitchen, 1-car garage w/auto opener, W/D hookups, patio atrium, \$1,700 incl. H2O/ trash/sewer/gardening service. 323/344-7163.

Real Estate

MT. WASHINGTON house, next to Glendale/Pasadena/Eagle Rock/Occidental College, 2,000 sq. ft., large custom 3 bd., 2.5 ba., 2-car gar., lots of storage, exc. Mt. Washington elem-entary school, 12 min./JPL, canyon view, quiet neighborhood, available for summer 2003, \$479,000. 626/403-0446.

Vacation Rentals

BALBOA ISLAND, fully furnished 2 bd., 1 ba., patio, washer/dryer, parking, steps to bay, \$150/night or \$875/week. 626/351-9641.

BIG BEAR LAKEFRONT, luxury townhome, 2 decks, tennis, pool/spa, beautiful master bd. suite, sleeps 6. 949/786-6548.

CAMBRIA, ocean front house, sleeps up to 4, excellent view. 248-1102.

HAWAII, Kona, ocean front on Keauhou Bay, house/guest house comfortably slp 6, 3 bd., 2 ba., rustic/relaxing/beautiful, swimming/ snorkeling/fishing, spectacular view, nr. restaurants/golf/other attractions. 626/584-9632.

HAWAII, Maui condo, NW coast, ocean front view, 25 ft. fr. surf, 1 bd. w/loft, compl. furn. phone, color TV, VCR, microwave, d/w, pool, priv. lanai, slps 4, laundry fac., Low Season rate \$105/nite/2, high season rate \$120/ nite/2, \$15/nite/add'l person. 949/348-8047, jackandrandy@cox.net.

MAMMOTH, Snowcreek, 2 bd., 2 ba., + loft, slps 6-8, fully equipped kitchen incl. microwave, D/W, cable TV, VCR, phone, balcony w/view to mtns., Jacuzzi, sauna, streams, fishponds, close to Mammoth Creek, JPL discount. 626/798-9222 or 626/794-0455.

OCEANSIDE condo, fully furn., 2 bd., 2 ba., fireplace, full kitchen, quiet, relaxing, beautiful beachside setting, w/BBQ/pool/spa/game rm, great ocean view, easy walk to pier and restaurants, slps 8, weekly or monthly. 909/ 981-7492 or dfhaug@yahoo.com, Darlene.

OCEANSIDE, on the sand, charming 1 bd. condo, panoramic view, walk to pier & harbor, pool/spa, game rm., sleeps 4. 949/786-6548.

ROSARITO BEACH condo, 2 bd., 2 ba., ocean view, pool, tennis, short walk to beach on priv. rd., 18-hole golf course 6 mi. away, priv. secure parking. 626/794-3906.

SANTA CRUZ, fully furn. house near beach and harbor, 2 bd., 2 ba., large deck, modern kitch., washer/dryer, walk to gd. restaurants, slps. 4, \$900/wk. 831/464-5031 or wms111@pacbell.net.

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